United Nations A/73/327

General Assembly

Distr.: General
16 August 2018

Original: English

Seventy-third session
Item 137 of the provisional agenda*
Programme budget for the biennium 2018–2019

Seismic mitigation retrofit and life-cycle replacements project at the Economic and Social Commission for Asia and the Pacific premises in Bangkok

Report of the Secretary-General

Summary

The present report is the second progress report on the seismic mitigation retrofit and life-cycle replacements project at the Economic and Social Commission for Asia and the Pacific (ESCAP) premises in Bangkok. The report is submitted pursuant to section XIII of resolution 72/262 A, in which the General Assembly requested the Secretary-General to submit a progress report on the implementation of the project at the main part of its seventy-third session.

The report provides an update on the progress made on the project since the previous report of the Secretary-General (A/72/338 and A/72/338/Corr.1), including the onboarding of the lead consultant firm, the revision to the construction methodology and creation of a strategy that now allows all occupants of the secretariat building to remain in on-site swing space without the inconvenience and added cost of relocating outside the ESCAP premises during construction. An update on the third-party peer review of the seismic design component and its integration into the overall project design is provided.

The report also provides an update on the development of the schematic design for the life-cycle replacement works and the interior construction of the secretariat, including the proposal for open-plan workspace so as to achieve the target of 20 per cent space efficiencies and support the implementation of flexible workplace strategies to further augment those efficiencies.

Updates are also provided on the outcome of the accessibility assessment surveys and the resulting road map, together with the activities conducted by the independent risk management firm to support the project team in identifying, managing and mitigating project risks.

* A/73/150.

18-13532 (E) 240818

Please recycle

While it is subject to risks, overall the project is on track, with construction estimated to be completed in 2023 within the overall estimated maximum cost of $40,019,000.

It is recommended that the General Assembly take note of the present progress report, take note of the revised project cost plan (contained in the annex to the present report), approve the establishment of two temporary positions in the project team and appropriate an amount of $4,484,500 for project activities in 2019.

I. Introduction

1. The present report is the second progress report on the seismic mitigation retrofit and life-cycle replacements project at the Economic and Social Commission for Asia and the Pacific (ESCAP) premises in Bangkok, which was approved by the General Assembly in section IV of its resolution 71/272 A, in which the Assembly authorized the activities related to all phases of the project. The present report is submitted pursuant to section XIII of General Assembly resolution 72/262 A, in which the Assembly requested the Secretary-General to submit a progress report on the implementation of the project at the main part of its seventy-third session. The report provides an update on the progress made on the project since the previous report of the Secretary-General (A/72/338 and A/73/338/Corr.1).

2. The project continues to be implemented in accordance with the previously reported project objectives. The present report provides an update on the refinement of several objectives, namely:

(a) Additional progress made towards achieving full accessibility for persons with disabilities;

(b) Additional efficiencies with respect to space utilization through the application of flexible workplace strategies;

(c) Minimizing disruption and maximizing business continuity of regular work activities by relying exclusively on on-site swing space.

3. In addition to the above, the report summarizes the planning and design activities undertaken by the project team to date and presents an update on: (a) the continued engagement with Member States and the ongoing support of the host Government; (b) the enhanced role of the Office of Central Support Services, Department of Management, of the Secretariat in New York in providing independent risk management services to the project; (c) the recruitment status of the dedicated project management team; (d) the onboarding of the lead consulting firm and commencement of the design phase, which, at the time of drafting the present report, was at the 50 per cent stage of development of the schematic design; (e) a report on the first Monte Carlo risk analysis, which concludes that the project is at risk of going over budget unless risk mitigation actions are taken; (f) the refinement of the construction methodology, which increases the number of phases from four to five and reduces the size of swing space from 4,000 to 2,000 square metres, an area that can be accommodated on site; (g) a revision to the project schedule in which the closeout phase is reduced to 6 months from the previously approved closeout period of 12 months, while still maintaining the overall construction duration and project completion date at the end of 2023; and (h) a cost plan showing the revised distribution of construction costs while staying within the overall approved budget.

4. The Secretary-General remains fully confident that the project will be completed within allocated budgetary resources and the approved project duration. The project budget remains at $40.019 million, inclusive of $3.194 million as contingency funding. Although at this stage of the development of the design, the risks to the project (at the time of drafting the present report) remain high, the project team considers that ample risk mitigating options are available and that the risk levels can be managed and reduced as the project progresses. Therefore, no additional funding is expected to be sought from the General Assembly to cover project risks.

II. Progress made on the project during the reporting period

A. Cooperation with Member States and the host Government

Member States

5. ESCAP has continued to brief and solicit voluntary contributions from Member States on a regular basis through the Advisory Committee of Permanent Representatives. The 369th and 370th meetings took place on 21 March and 30 June 2017 respectively. During and in the margins of these meetings, ESCAP followed up on the note verbale issued to all Member States on 12 January 2017. In addition, several bilateral meetings between the Director of Administration, as Project Executive, and individual Member States took place during the previous reporting period. Whereas a general willingness to support the project is evident, to date no concrete offers have been made. ESCAP has and will continue to impart upon all Member States the importance of voluntary contributions towards the success of the project.

6. With regard to the provision of technical and other support expertise, such as Junior Professional Officers and non-reimbursable loans, a request for pledges of Junior Professional Officers was made in a select range of job families and skill sets. ESCAP published the vacancy announcements on the website of the Department of Economic and Social Affairs of the Secretariat in July 2017 and the information was shared with Member States at the meetings of the Advisory Committee of Permanent Representatives in the latter part of 2017. Although no responses have been received thus far, ESCAP will follow up with Member States which may be able to offer support.

Host country relations

7. Pursuant to paragraph 5 of section XIII of General Assembly resolution 72/262 A, ESCAP has continued to engage with the Ministry of Foreign Affairs of the host country to seek its assistance and support for the project. During the present reporting period, three meetings were held between the ESCAP Division of Administration and the Department of International Organizations of the Ministry of Foreign Affairs of the host country, to keep the host country briefed on regular project progress and key milestones.

8. While the Ministry had previously identified accommodation options for use by ESCAP as temporary swing space during the project implementation, in January 2018 ESCAP informed the Ministry that the space was no longer required. This change to the overall project implementation strategy took effect in middle to late January 2018, based on the re-evaluation of the construction methodology undertaken by the lead consulting firm. It was determined that the need for off-site space could be avoided in favour of on-site only swing space, which was more cost-effective and more beneficial for business continuity. The Secretary-General remains grateful to the host country for the generous offer made.

9. During the present reporting period, the host country continued to support the project by facilitating discussions with ESCAP and relevant local authorities, such as the Bangkok Metropolitan Administration and the Council of Engineers of Thailand, to provide local expertise and to assist in establishing procedures necessary for the smooth and successful delivery of the project. The Ministry of Foreign Affairs supported the establishment of an advisory committee of local technical experts to provide technical advice and offer local expertise and best practices in the areas of local construction techniques, local expertise on occupational health and safety during construction in an occupied building, permits, building codes and required approvals.

B. Project governance

10. In accordance with the governance structure described in the previous report of the Secretary-General (A/72/338 and A/72/338/Corr.1), the project owner is the Executive Secretary of ESCAP; the Director of Administration at ESCAP has been assigned to serve as the Project Executive. The day-to-day project execution is under the leadership of the dedicated Project Manager, who has been on board since September 2017.

Stakeholders committee

11. The stakeholders committee meets on a quarterly basis and is kept abreast of regular progress in the project at those meetings and through status reports from the Project Executive. During its meeting on 24 April 2018, the committee was briefed on general progress, the change to the implementation strategy, the budget, the schedule of work and risk management activities.

12. With respect to the implementation strategy, members of the committee raised concerns regarding business continuity and occupational health and safety during the construction period. The project team underscored that both issues were among the key project objectives and reported that mitigating measures would be taken to minimize risks during the project, such as performing heavy construction during off hours and providing adequate information technology (IT) tools and promoting the use of flexible workplace strategies during the project, in line with lessons learned from other capital projects undertaken by the Organization, as well as local best practices as shared by the technical advisory committee established with the support of the Ministry of Foreign Affairs and the Thai Council of Engineers.

13. With respect to client engagement, given the importance of visible leadership in change management, the stakeholders committee was informed that change champions (project focal points) had been assigned from each occupant group being affected by the project. A second stakeholder committee meeting took place on 24 July 2018, during which stakeholders were further advised of the development of the detailed design, including the open-office flexible workspace solution and the ESCAP space guidelines currently under development.

Coordination and oversight by the Office of Central Support Services at Headquarters

14. Ongoing coordination between ESCAP and the Office of Central Support Services at Headquarters has continued during the present reporting period in line with the project coordination agreement signed in 2017. Regular coordination meetings between the dedicated project management team and the Global Property Management Service of the Office of Central Support Services are held fortnightly regarding day-to-day project execution.

15. The dedicated Project Coordination Officer, located in the Global Property Management Service in New York and funded partly by the project (cost shared with the Africa Hall project at the Economic Commission for Africa (ECA)), came on board in November 2017. The Coordination Officer has assumed the role of primary interlocutor between the project team and Headquarters-based entities, sharing lessons learned and best practices, and is the primary focal point for risk management activities.

16. In October 2017, in line with paragraph 9 of section XIII of General Assembly resolution 72/262 A, in which the Assembly emphasized that the Office of Central Support Services should be actively involved in overseeing the project to ensure the

central supervision of capital projects, including risk management and alignment with lessons learned, the Office contracted an international firm with relevant experience in the design and construction industry to support the Office in providing independent risk management services for the project. Risk management is further described in section D below.

C. Project management

Project team

17. Of the seven currently approved project positions, six are encumbered. As indicated in the two previous annual reports (A/71/333, A/71/333/Corr.1, A/72/338 and A/72/338/Corr.1), ESCAP and the Office of Central Support Services conducted extensive outreach to attract qualified female candidates. Of the five Professional-level project positions, four are encumbered by women, including the Project Manager and the New York-based Project Coordinator.

18. The recruitment of the Building Electromechanical Engineer (National Officer), approved by the General Assembly in its resolution 72/262 A, is currently in progress and the incumbent is expected to be on board by 1 September 2018.

19. In accordance with General Assembly resolution 71/272 A (sect. IV, para. 23), in which the Secretary-General was requested to ensure that resource requirements at each stage of the project are based on a thorough review of actual and up-to-date needs on the ground, ESCAP continues to review the workload, tasks and resource requirements based on actual needs at each stage of the project.

20. In line with best practices and lessons learned from other capital projects, ESCAP aims to enter into an on-call technical services contract to provide ad hoc specialized technical services to bridge any gaps, as well as to augment the skills and capacity of the dedicated project management team.

D. Risk management

Independent risk management firm

21. The Office of Central Support Services has, in consultation with the ESCAP project team, established a risk management strategy for the project. This strategy: (a) establishes processes and procedures for the identification and assessment of risks and for prioritizing them in accordance with their evaluation; (b) once a risk is identified, facilitates planning the implementation of risk responses that ensure a successful delivery of the expected project objectives; and (c) in line with recommendations of the Advisory Committee on Administrative and Budgetary Questions (A/72/7/Add.6, para. 22), enables the Organization to assess and manage a risk-based contingency budget.

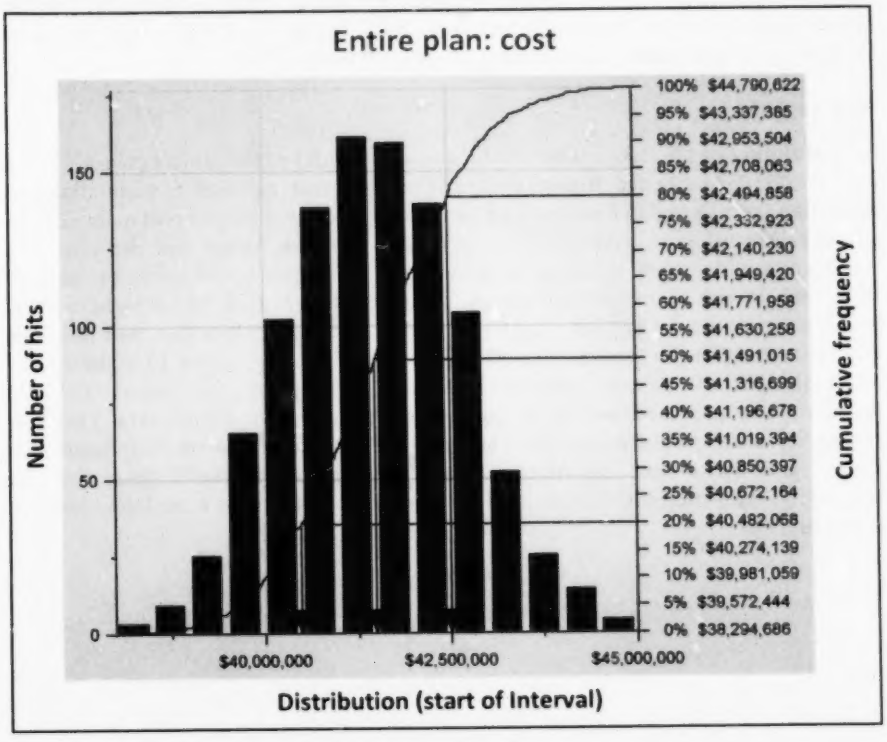
22. In March 2018, a risk workshop was undertaken in Bangkok, facilitated by the Project Coordination Officer from the Office of Central Support Services and attended by the project team, ESCAP stakeholders and representatives from the independent risk management firm. The outcomes and products of the workshop were the project risk management strategy document, a risk register and a quantitative (Monte Carlo) analysis of risks. The independent risk management firm will also produce two annual reports, the first of which was issued in July 2018. The second report is expected to be issued in the first quarter of 2019.

23. The Monte Carlo risk analysis takes input from the project team, including risk scores (indicating the probability and likelihood) and the most likely range of

quantitative effects of each risk, and simulates approximately 1,000 theoretical versions of the project. The Monte Carlo analysis serves to provide a snapshot of the most likely overall cost of known risks at the time when inputs from the project team were provided. At the time of the risk workshop, the project design status was only midway through the schematic design phase. This meant that a high level of design uncertainty remained and the risk levels appeared high. The Monte Carlo analysis shows the overall projected effect of known risks on the project, assuming that no further mitigating actions are taken.

24. For the Secretariat's capital construction projects, a "P80" benchmark has been established as the target for measuring risk on a given project, which means that the project team would ideally strive to have an 80 per cent confidence level that the project will be completed within budget. A summary of the first Monte Carlo analysis of this project is shown in the form of a cost histogram in figure I.

Figure I
Cost histogram of analysed risks as at June 2018



25. The first Monte Carlo simulation shows that at the United Nations benchmark level of 80 per cent, the project would be expected to come in at approximately $42.5 million, or $2.5 million over budget. The cost histogram above illustrates that there is a relatively low level of confidence, or roughly 12 per cent, that the project will be completed within the approved project budget of $40.019 million without further risk mitigation action. While it is normal that at the early stages of a project a large number of unknown factors may lead to exposure to high risk, the Secretariat considers that the risk confidence level of the project at this stage is unusually low.

26. Fully cognizant of the risks identified, the Secretariat is proactively managing them. As described in paragraph 37 of the present report, a value engineering exercise was conducted from February to March 2018, with the goal of targeting optimal

solutions at a lower cost, without compromising quality. A second value engineering workshop was held in May 2018, chaired by the Project Executive and attended by representatives of the Office of Central Support Services, the project team and project stakeholders to further identify strategies for reducing the risk of budget overruns. In line with the outcomes of these efforts, the project team will be able to issue final construction documents for bids so that the actual cost of the construction phase of the project will most likely be delivered within budget. As the project design progresses, it is expected that the confidence level reported in the cost histogram will rise.

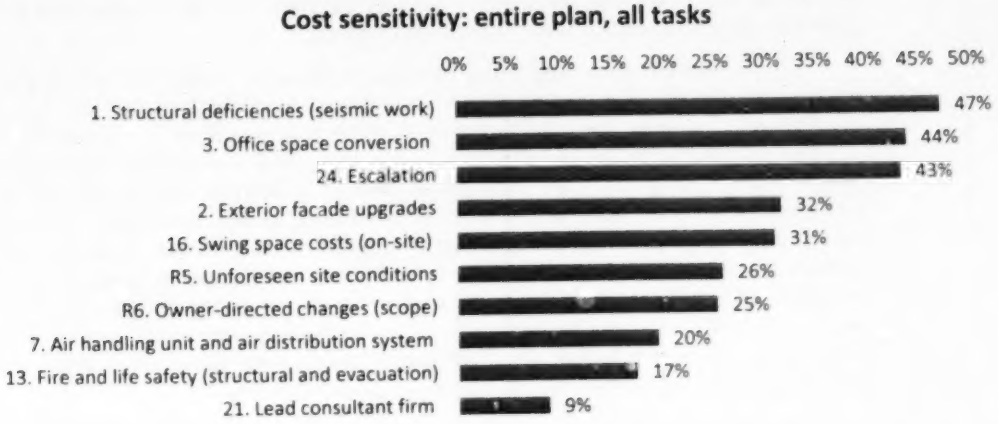
Integrated risk management

27. Integrated risk management continues to be performed at the local level by the ESCAP dedicated project management team supported by the lead consulting firm. The lead consulting firm continues to support ESCAP, in coordination with the independent risk management firm, during the various project phases, including design, the tendering process and construction. Given that the project is currently in the design and tender phase, most of the risks given high priority during the present reporting period relate to design risks, especially on the need for design decisions (risk mitigating actions) required from the project team.

Risk register

28. Building on the risk register established at the onset of the project (see A/72/338 and A/72/338/Corr.1), the project team refined its current approach to populating and managing the risk register in line with the newly developed project risk management strategy. All risks are given scores and assigned a risk owner and the proposed responses are identified. Risks are monitored and controlled by the project team and, following the risk management strategy, emphasis is placed on the 10 highest risks, because these pose the highest overall risk to the project and mitigating their potential effects could offer the greatest beneficial impact. A summary of the 10 highest risks and their ratio of potential individual impact to the overall risk impact (i.e. cost sensitivity) is provided below in the cost sensitivity chart (figure II). The cost sensitivity chart measures the correlation or relationship between individual risk entries and the overall estimated amount at completion. The higher the cost sensitivity, the stronger the relationship between the estimate at completion and the individual risk.

Figure II
Cost sensitivity (Tornado) chart as at June 2018


Cost sensitivity: entire plan, all tasks
0% 5% 10% 15% 20% 25% 30% 35% 40% 45% 50%
1. Structural deficiencies (seismic work) 47%
3. Office space conversion 44%
24. Escalation 43%
2. Exterior facade upgrades 32%
16. Swing space costs (on-site) 31%
R5. Unforeseen site conditions 26%
R6. Owner-directed changes (scope) 25%
7. Air handling unit and air distribution system 20%
13. Fire and life safety (structural and evacuation) 17%
21. Lead consultant firm 9%

Description of the five highest project risks

29. The five highest risks identified in the risk cost sensitivity chart (Tornado chart) shown in figure II are explained in more detail, with a description of the risk response, as follows:

(a) **Structural deficiencies**. The risk of structural deficiencies is inherent in the project. The structural part of the project scope carries the risk of being potentially the most disruptive to business operations because it involves heavy and noisy work and potentially vibrations in the primary structure, and because of unforeseen field conditions, given that the conditions are part of the existing structure. This risk is being mitigated by extensive surveys of existing conditions; however, it is not totally avoidable;

(b) **Office space conversion**. This risk is inherent to the project. Renovation of existing premises carries risk owing to unknown conditions that may be revealed during the demolition or construction process and potential delays in the delivery of materials, equipment and furnishings. As at the midpoint of the schematic design development stage in May 2018, the cost estimate for typical interior construction (including finished ceiling material, lighting fixtures, interior hard walls, doors and hardware) exceeded the estimated budget for this line item. Although some additional features are required owing to the implementation of flexible workplace strategies, the project team will aim to value engineer the remaining items to the allocated budget, before completion of the design, to ensure that this risk does not fully materialize. This risk is being mitigated through extensive surveying of the site and conditions and through market research of material suppliers; however, it is not completely avoidable;

(c) **Escalation**. At the time of the development of the initial project budget in 2016 (as contained in document A/71/333 and A/71/333/Corr.1) using a baseline year of July 2017, escalation was calculated at 4 per cent of construction trade costs, using a forward projection of published data on recent past escalation rates, compounded from the time the estimate was developed until the midpoint of construction. To mitigate the risk of additional escalation resulting from slippage in the construction schedule, the team intends to include in the request for proposals from general contractors the requirement for the contractor to purchase many of the construction

materials up front at a fixed cost and warehouse them in a secure location. This may have the benefit of reduced costs as a result of economies of scale by purchasing in bulk as opposed to smaller orders to match construction phasing. However, any change in market rates (up or down) is beyond the control of the Organization and therefore must be absorbed within the project budget;

(d) **Exterior facade upgrades**. This risk includes the replacement of the glass walls of the secretariat tower, which are currently made of single-pane glass with a low efficiency rating. The manufacturing of glass wall solutions is susceptible to deficiencies and to challenges in the assembling of various components. This portion of the risk is being mitigated through proposals for options with higher energy efficiency values. In addition, marble is a natural, heavy stone and therefore susceptible to variations and deterioration owing to climate conditions and subject to problems associated with its installation. Additional risk lies in the availability of materials and skilled labour for installation. This risk is being mitigated through market research into new technology and products, including stone veneer over insulated panels with a higher energy efficiency rating, such as the external thermal insulation composite system referred to in paragraph 43 below;

(e) **Swing space costs**. As described in paragraphs 54–58 of the present report, the one-time capital costs of providing swing space, as well as costs related to ongoing operations and moves throughout the project implementation, represent a significant project risk. This is being mitigated by constructing some of the swing space on-site and minimizing the disruption and the related costs inherent in multiple moves and in maintaining multiple sites.

E. Procurement

30. ESCAP continues to ensure that the procurement of goods and services for the project is carried out in a timely manner and in strict compliance with the regulations, rules and relevant provisions of General Assembly resolutions governing procurement in the United Nations.

31. The acquisition of the services of a lead consulting firm was one of the main critical requirements for the planning phase of the project in 2017. Procurement action was completed as planned and a contract was signed in October 2017 with a consulting, engineering and architecture company with a contract amount not to exceed €2,348,768.

32. The next phase of the project will focus on the procurement of construction works by the main contractor and the provision of office furniture, moving and logistics services and supply and installation of IT and security equipment. The ESCAP Procurement Unit is currently working on contracting for construction work for on-site swing space, for professional services to provide third-party peer review of the lead consulting firm and for on-call professional technical services to support and augment the project team as the need arises.

33. Acquiring the services of a general contractor in a timely manner is critical for the project. It is planned that a request for proposals will be issued in January 2019, with the ESCAP Procurement Unit currently carrying out extensive outreach with Member States, the Advisory Committee of Permanent Representatives, the Ministry of Foreign Affairs of Thailand, the Thai Chamber of Commerce, local newspapers, the United Nations Global Marketplace and the Procurement Division of the Secretariat and on ESCAP websites with a view to reaching the widest possible audience. The ESCAP Procurement Unit and the project team have also reached out to colleagues in other duty stations who have had experience in sourcing similar services for other capital projects, as well as the Office of Legal Affairs of the

Secretariat and the Procurement Division to ensure that a proper procurement strategy is in place.

34. The above-mentioned anticipated major procurement activities were identified as critical project requirements for 2018 and 2019 and are planned to be executed in a timely manner so as to avoid delays in the completion of the project.

F. Overall project design and integration of seismic design component

35. The seismic retrofit and life-cycle replacements project is to be designed by the lead consulting firm within the strict parameters of cost-effective design, accelerated construction, the available budget set by the General Assembly and cost plans approved by ESCAP. The onboarding of the lead consulting firm, an architecture and engineering consultancy business with its headquarters in Spain, took place in October 2017. The initial site visit in the same month was used to conduct extensive surveys, assess current conditions and prepare an in-depth analysis of current building data and documents.

36. Following the initial site surveys and condition assessments, a project inception report was submitted in December 2017. This was the first major deliverable output from the lead consulting firm and its objective was to set the criteria and basis for the design phase, which started in January 2018. The inception report detailed the major areas of scope to be addressed under the objectives of the seismic mitigation project, including seismic mitigation compliance, occupant safety (including fire and life safety[1] and elimination of hazardous materials) and security, life-cycle replacement to maintain building asset value, space optimization, universally accessible premises, sustainability and energy efficiency. These overall objectives have been adopted by the United Nations across duty stations following the recommendations of the strategic capital review.

37. To deliver the major products for the design phase in 2018, the lead consulting firm is scheduled to make six or seven visits of at least a week's duration each. Of these visits, four had already been completed at the time of the present report. As the first activity for the design phase, the lead consulting firm developed a conceptual and schematic design for review by ESCAP. While the conceptual and schematic design was being developed, and as a parallel activity, the lead consulting firm also conducted the first value engineering workshop at ESCAP in February/March 2018. During this workshop, which was attended by the lead consulting firm, the project team, ESCAP stakeholders and other internal stakeholders, the lead consulting firm presented several viable design options to address each major area of scope for consideration by ESCAP. The corresponding costs in the low, medium and high ranges were also provided. After extensive review and consultations, the seismic mitigation project team has selected proposals that adequately address each area of scope, as well as the goal of staying within the approved project budget.

Seismic retrofit design

38. The seismic retrofit design continued to be developed further by the Asian Institute of Technology throughout 2017. In October 2017, the lead consulting firm started the structural peer review of the retrofit design and has recommended revisions and adjustments to the structural design. The peer review of the secretariat building was completed in June 2018. The percentage of columns to be retrofitted is

[1] The term "life safety" refers to the safe use of fixed building elements during any emergency, especially fire or earthquake, or other event such as a power outage.

approximately 10 per cent of the total number of columns, whereas the percentage of beams to be retrofitted is roughly 30 per cent. While some small portions of the link bridge slabs were identified as requiring retrofit, there was a decrease in the percentage of wall area requiring carbon fibre reinforced polymers. The peer review for the ESCAP service building will be finalized in August 2018.

39. The lead consulting firm has reconfirmed what was noted in last year's internal review, that the approach proposed by the Asian Institute of Technology of using carbon fibre reinforced polymers to reinforce the columns and beams is a feasible and cost-effective solution. The carbon fibre reinforced polymers integrate the seismic retrofit into the overall final architecture and engineering design package for the project. The Asian Institute of Technology will continue to be available to provide any clarifications and make any necessary amendments and will continue to maintain responsibility for the seismic design throughout the project.

40. Furthermore, the project scope addressing the safety of the non-structural components within the facilities in case of a seismic event will also be covered by the lead consulting firm, with completion expected by November 2018.

Life-cycle replacement design

41. The life-cycle replacement scope of the project covers the areas of fire and life safety, upgrades of heating, ventilation and air-conditioning systems, electrical systems, lighting, IT upgrades, the facade, the roof, sewerage and plumbing upgrades and interior renovation works. These works will be designed and implemented with due consideration given to the overarching goal of achieving an energy efficient, sustainable and universally accessible premises.

Facade and roof

42. The treatment of the current secretariat facade is one of the main tasks of the life-cycle replacements project and a significant contributor to the objective of achieving the 16–18 per cent improvement in energy efficiency. The project team reviewed five proposals for a glazed facade provided by the lead consulting firm as part of the first value engineering workshop concluded in April 2018. Of the five options reviewed, the third option was selected as the most cost effective one that meets the energy efficiency objectives. This solution consists of replacing the current glazing with superior, high-quality double glazed laminated windows with increased light transmittance and reduced heat gain and an external thermal insulation composite system to cover the concrete beams. The existing marble facade, which is no longer stable, will also be removed and replaced with an external thermal insulation composite system. This new facade will support further energy efficiency improvements in the building and provide weather protection for the building.

43. The lead consulting firm designers have used computer energy modelling methods to confirm improvements in energy efficiency of the proposed facade solution, which is expected to reduce energy consumption by 387 MWh per year, once fully installed. The new facade will also have a minimal impact on the visual identity of the ESCAP secretariat building. ESCAP will consult with technical experts, review local building regulations and consult with protocol experts nominated by the host country to ensure the facade renovation and its appearance comply with local standards and requirements.

44. The secretariat building roof will also undergo full replacement of the waterproofing surfaces and upgraded water collection and drainage and structural support points in preparation for the future installation of solar photovoltaic panels.

Electrical and lighting

45. The inspection and on-site assessment of the secretariat building's current electrical and lighting systems revealed that the wiring is well beyond its useful life and must be replaced for safety reasons. The electrical distribution systems from the main supply bus ducts to floor distribution must all be replaced. This replacement will include the installation of smart panels and the replacement of all old and deteriorated electrical items throughout the building. The building's lighting distribution system will also be upgraded, with all lighting fixtures and downlights replaced with LED lamps. A new smart lighting control system with occupancy and daylight sensors is also under consideration. With the new lighting distribution system to provide adequate illuminance combined with maximum daylight use, this new solution will support an enhanced interior workspace and further improve the energy savings of the project.

Fire and life safety

46. The fire and life safety elements of the project are driven by life safety, with the lead consulting firm site assessment and document review identifying that the structure is deficient in terms of structural fire protection. Deficiencies include inadequate fire ratings of beams, columns and floor slabs. Other shortcomings identified are being addressed through the proposed design, including: (a) stair emergency egress widths; (b) smoke compartments; and (c) fire lobbies. Elevator pressurization identified under the project scope was only a partial solution to the fire and life safety requirements and has been expanded to be a more complete and code compliant solution.

Energy efficiency and sustainability

47. The energy engineers in the lead consulting firm reviewed relevant project documentation including the report on facade performance done in 2012 as mentioned in the report of the Secretary-General of 2016 (A/71/333 and A/71/333/Corr.1, paras. 38 and 39) and all applicable codes and standards, including those related to energy and water conservation, with the objective of transforming the secretariat building into a more sustainable and efficient building facility.

48. Based on the initial studies, the project will aim for Leadership in Environmental and Energy Design (LEED) compliance for building renovation projects and WELL building standard (a building standard that measures occupant wellness in the built environment) compliance. There are 24 environmental measures being implemented in the project that have been identified in accordance with LEED and WELL requirements. Each one has been adapted and interpreted as actions. These measures involve energy consumption, improving occupant well-being, reducing the use of non-renewable material resources and waste generation, and improving atmospheric and indoor air quality, as well as due consideration for other social aspects.

49. To achieve the 16–18 per cent energy efficiency gain projected in the 2016 report of the Secretary-General (A/71/333 and A/71/333/Corr.1) the design has evolved in multiple areas: (a) upgrading the existing facade, including the replacement of the current glazing and marble cladding to reduce heat gain in the building; (b) upgrading the heating, ventilation and air-conditioning systems to support more efficient cooling of the building with a reduced dependency on electricity required to cool chiller water; (c) reducing the dependency on artificial lighting through the implementation of energy efficient green lighting solutions; and (d) leveraging the abundance of available natural light through the implementation of

an open, flexible workspace environment that eliminates most of the closed offices along the facade windows.

Accessibility

50. Since the last progress report on the subject (A/72/338 and A/72/338/Corr.1), the project team has continued its collaboration with the Social Development Division of ESCAP to build on the work delivered earlier in 2017 by the expert consultants on universal design and accessibility, with a view to bringing the project into line with the vision of the General Assembly expressed in resolution 70/170 of an inclusive United Nations for persons with disabilities. The campus-wide accessibility assessment conducted by the expert consultants was completed on 8 October 2017 with the final approval of the accessibility report issued by the ESCAP accessibility working group in June 2018.

51. The report, developed by the team of external experts, details the findings from the assessment, which included: (a) a three-week on-site assessment of the facilities; (b) a series of interviews with key stakeholders, including the Facilities Management Unit, the Human Resources Management Section, the Learning Centre, the Medical Centre and the Conference Management Unit; and (c) two surveys, comprising an in-person site survey and an electronic questionnaire.

52. The surveys solicited feedback from two main audiences: persons with disabilities, and the staff at large. The in-person inclusivity site survey was spearheaded jointly by the accessibility consultants and the ESCAP Social Development Division and included a series of walk-throughs of the various areas of the premises with persons with disabilities. This survey was used to gain user perspective on the accessibility, or lack thereof, of the ESCAP premises. The second survey was an electronically distributed questionnaire sent to all staff that work on the ESCAP premises. It was completed by 25 per cent of staff, including staff of agencies, to gain general feedback on the perceived accessibility of spaces, services and technologies on the ESCAP premises from the end-user perspective, including persons with disabilities and those without disabilities. The feedback from both surveys was used to augment and validate the identified remedial work recommendations proposed in the accessibility road map. The accessibility road map was then broken down into detailed remedial actions under the three main areas of: (a) the built environment, (b) information and communications technology; and (c) services, with ownership assigned to the many stakeholders who were involved in the exercise.

53. The interior renovation works in the secretariat building will incorporate, as part of the design, accessibility features identified in the accessibility road map and complying with United Nations and international standards.

Construction methodology and swing space strategy

54. During the development of the schematic design by the lead consulting firm, the project team has refined the approach to the overall implementation strategy, in particular regarding the swing space strategy. This has resulted in a strategy that allows all occupants to be accommodated in on-site swing space without the inconvenience and the added cost of relocating outside the ESCAP premises.

55. In the previous two reporting periods, the swing space strategy focused on securing a combination of both off-site and on-site swing space. The logic at the time was to minimize the amount of disruption on the ESCAP compound, and therefore have the least negative impact on the project schedule and overall delivery.

56. Because securing convenient off-site swing space in relatively proximity to the ESCAP compound proved more difficult than anticipated, the benefits of keeping all occupants on site during the construction period became apparent. The added benefit of avoiding sunk costs (i.e. those that would offer no direct long-term benefit to the Organization) of rent, utilities, security and IT systems to be installed off-site also became clearer during the schematic design and initial costing exercise. Accordingly, the team set out to refine the implementation strategy with two goals: (a) adjust the number and size of construction phases to minimize the need for swing space; and (b) redouble efforts to locate on-site swing space through construction and/or repurposing existing, underutilized or non-essential space.

57. The result of these efforts was to increase the number of construction phases from four to five, which reduced the number of staff in each move and reduced the swing space required from 4,000 to 2,000 square metres. This enables all swing space to be provided on site, in what is currently the ground floor of the secretariat building and through the construction of 1,200 square meters of additional space on the ESCAP premises. This will significantly reduce the risk of disruption to business continuity and general efficient delivery of services during the project construction period.

58. The five-phase construction methodology will also allow construction to take place in smaller sections of the secretariat building, requiring only one tower block to be scaffolded at a time, thereby reducing the costs of scaffolding and minimizing the negative impacts on the appearance of the secretariat building during the construction period.

Space efficiency and utilization

59. In accordance with the Secretary-General's report contained in document A/71/333 and A/71/333/Corr.1, in a study conducted in 2015 ESCAP determined that its space efficiency could be improved by 20 per cent as compared with existing conditions by changing the interior office layout from predominantly fully enclosed private offices to an open office environment, with the new configuration being well-suited to easily adopting flexible workplace strategies.

60. As part of the interior construction works, the project will implement a new office space solution, incorporating features aimed at achieving increased space efficiency. These features include provision of open workspace that eliminates closed offices along the window facades, limited enclosed areas on floor plates, increased access to natural light and reduced dependency on artificial lighting, reduced individually assigned space supported by increased access to specific activity-based working areas for the use of all occupants (such as huddle spaces, interview rooms, focus booths, breakout areas and resource areas). The new design approach will also eliminate the duplication of specific services on each floor and look to consolidating these on a common services floor. Such services will include larger meeting rooms, including rooms with videoconferencing and other specialized equipment, which is similar to best practices from the capital master plan in New York and the strategic heritage plan in Geneva.

61. In addition to promoting increased space efficiency, the move from enclosed offices to open workspace will also support increased collaboration and cross pollination of ideas and expertise while still providing the types of workspaces needed for focused work.

62. Further to the initial space efficiency objective of the project, during the present reporting period the project team conducted a space utilization study similar to studies conducted across the United Nations, including in New York, Geneva and Nairobi. The average utilization rate of typical offices and workstations at ESCAP was found to be 45 per cent. This is in line with the results of similar studies in other United

Nations duty stations and indeed rates from other international organizations, in both the private and public sectors.

63. The total number of occupants in the secretariat building at present is approximately 1,250. Of these, slightly less than half are ESCAP staff, the other half are tenants (agencies, funds and programmes and other offices funded from extrabudgetary resources). As initially reported in the 2016 report of the Secretary-General (A/71/333 and A/71/333/Corr.1), however, the tenants currently utilize their individual spaces (in terms of size and area) more efficiently than ESCAP. By ESCAP effecting a 20 per cent increase in efficiency through moving from an enclosed to an open office work environment, the utilization rates between ESCAP and tenants would be better balanced, and as a result approximately 1,800 square metres of workspace could be recouped to accommodate an additional 150 occupants in the renovated ESCAP secretariat building.

64. Table 1 below shows the additional rental workspace gained from applying the 20 per cent space efficiency measures.

Table 1
Space efficiency calculations

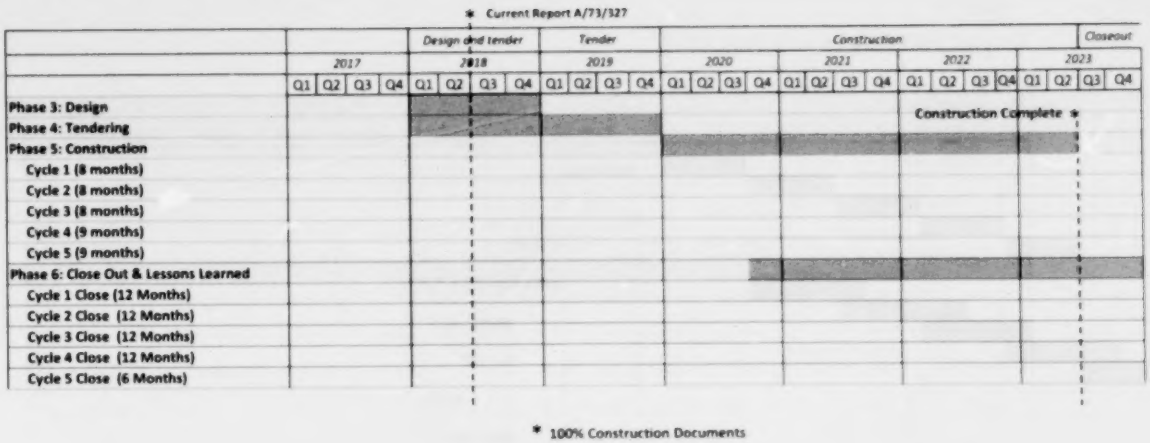
	Gross area office space (square metres)		
Scenario	*ESCAP*	*Tenants*	*Total*
Existing conditions	9 500	7 900	17 400
Post-renovation, without flexible workplace strategies[a]	7 700	9 700	17 400

[a] Assumes 20 per cent efficiency gain over existing conditions. Additional efficiencies are expected with the implementation of flexible workspace strategies.

G. Project schedule

65. Overall, it is currently estimated that the project will be completed on schedule by the end of 2023. Owing to the revised implementation strategy and the lead time required for preparing on-site swing space, construction works will now begin in early 2020 instead of mid-2019 as had previously been reported in document A/72/338 and A/72/338/Corr.1. To comply with the originally approved project end date of December 2023, however, the closeout periods will now be staggered to begin after the completion of each of the five construction phases, with the final closeout phase being reduced from 12 to 6 months. Figure III illustrates how the staggered closeout phases will be implemented.

Figure III
Staggered closeout schedule



66. Bearing in mind the staggered closeout phases and as a risk mitigating action to ensure the project closeout phases are managed properly, the Facilities Management Unit in ESCAP, as the future custodian of the upgraded secretariat building, will work very closely with the project team throughout the closeout process and take ownership of any closeout activities that extend beyond the approved project end date.

67. The shift in the construction period is the result of a combination of factors, namely:

(a) A longer than anticipated design, construction and procurement period for the swing space, because of the move from the combined on-site and off-site swing space solution to an on-site only swing space solution;

(b) A longer than anticipated design period for the main works, which is mainly the result of a protracted change management effort, entailing discussions with tenants regarding the move from the current closed office space solution to the proposed open office space work environment and the implementation of flexible workplace strategies for Secretariat entities. The result is that start of construction has been pushed back from mid-2019 to the beginning of 2020.

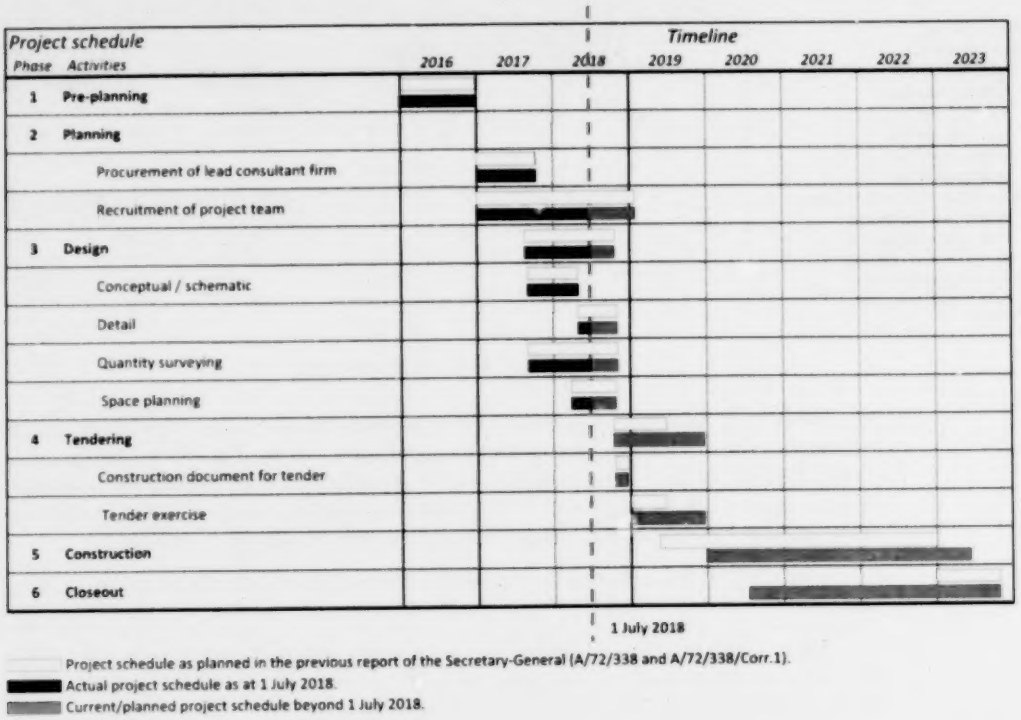
68. It should be noted, however, that the shift in schedule is not expected to result in additional project costs. The staffing requirements will not extend beyond the approved project duration period and the dedicated project management team will be tapered towards the end of the project, as will the level of effort required from the lead consulting firm.

69. It is also possible, even likely, that once the team starts implementing multiple phases of the project, and on the basis of lessons learned from previous phases, some phases could be implemented more quickly. Once the general contractor is brought on board, currently scheduled for January 2020, it will be possible to provide a more accurate projection of the possibility to complete construction earlier than currently scheduled.

70. In addition, the implementation of the open office space solution and flexible workplace strategies could result in an additional $475,200 in annual rental income based on a projected increase of 1,800 square metres of rental space in the ESCAP secretariat building. For these reasons, the secretariat considers that the additional

time taken to complete the project is worth the additional effort. An updated project schedule is shown in figure IV.

Figure IV
Project schedule as at 1 July 2018



H. Rental income

71. Rental income is primarily derived from rental of office space to United Nations agencies and other entities connected with the activities of the United Nations. Rent is based on current commercial values. The net rental amount is reported under income section 2 of the programme budget.

72. The rental charge for 2018–2019 is $264 per annum per square metre for United Nations agencies, funds and programmes and $279.60 for commercial tenants. To facilitate budgetary planning by tenants, in the first year of a biennium the rate to be applied in the subsequent biennium is assessed and tenants are informed. In April 2017, following the evaluation undertaken in 2016, United Nations agencies, funds and programmes were informed that the rate to be applied in 2018–2019 would remain at $264 per annum per square metre. The income from rental of premises in 2018–2019 is estimated at $7,014,554.

73. Table 2 below shows the estimated rental income per biennium during the proposed construction period and at the end of the project in 2024–2025, when space efficiency improvements will have provided additional space available for rent.

Table 2
Estimated rental income
(United States dollars)

	2018–2019	*2020–2021*	*2022–2023*	*2024–2025*
Rental rate (per annum per square metre)	264	To be evaluated in 2018	To be evaluated in 2020	To be evaluated in 2022
Rental income (based on current rental rate)	7 014 554	7 014 554	7 014 554	7 964 954[a]

Note: Projected rental income may change owing to changes in the area occupied while tenants are in swing space during construction.

[a] Includes an increase in income of $475,200 per year owing to space efficiency gains.

74. With the implementation of a new open office space solution throughout the secretariat building to achieve the project objective of 20 per cent space efficiency, at the end of the project in 2023, it is estimated that the secretariat will have at least 1,800 square metres of additional vacant space, equivalent to $475,200 in annual rental income based on the current rate of $264 per rentable square metre. Should the implementation of flexible workplace strategies during the project result in additional efficiencies (e.g. by accommodating the existing ESCAP secretariat staff within a smaller footprint), it may be possible to attract additional United Nations entities to the complex, resulting in further additional rental income.

III. Project accountability

75. In paragraph 13, section IV, of its resolution 71/272 A, the General Assembly requested the Secretary-General to entrust the Office of Internal Oversight Services (OIOS) with providing oversight of the project and to include information on key findings in the context of the annual reports of the Office on its activities.

76. In line with that resolution, OIOS conducted its second audit of the project in early 2018. An on-site mission to the ESCAP premises in Bangkok was conducted during the month of February 2018 and the report was published on 5 June 2018. The complete report (No. 2018/054) can be found on the OIOS website at www.oios.un.org.

77. OIOS concluded that ESCAP has made significant progress in the implementation of the project. This includes better coordination with the Office of Central Support Services, implementing initiatives to establish appropriate project management methodologies, recruiting the project manager and hiring the lead consulting firm to produce the technical design that will determine the direction of the entire project.

IV. Project expenditures and anticipated costs

A. Status of expenditure and projected expenditures for 2018

78. In resolution 71/272 A (sect. IV, para. 21), the General Assembly approved an appropriation of $877,400 for the project for 2017, comprising $505,600 under section 19, Economic and social development in Asia and the Pacific, and $371,800 under section 33, Construction, alteration, improvement and major maintenance.

79. In resolution 72/262 A (sect. XIII, para. 15), the General Assembly approved an appropriation of $4,057,200 for the project for 2018, comprising $615,000 under

section 19, Economic and social development in Asia and the Pacific, and $3,422,200 under section 33, Construction, alteration, improvement and major maintenance.

80. The approved funding for 2017 and 2018 therefore amounts to $4,934,600. The actual expenditures as at 30 June 2018 amount to $1,871,100, and the projected expenditures for the remainder of 2018 amount to $1,901,100, as detailed in table 3.

Table 3
Status of expenditure as at 30 June 2018 and projection for the remainder of 2018

(Thousands of United States dollars)

	Appropriated project funding for the period 2017–2018	*Cumulative expenditure from project start up to 30 June 2018*	*Projected expenditures from 1 July to 31 December 2018*	*Total projected expenditures for 2017–2018*	*Projected unused balance at the end of 2018*
	(a)	*(b)*	*(c)*	*(d) = (b) + (c)*	*(e) = (a)-(d)*
Section 33, Construction, alteration, improvement and major maintenance					
1. Construction costs	2 139.0	–	240.0	240.0	1 899.0
2. Professional services	1 056.8	1 034.8	929.1	1 963.9	(907.1)
3. Escalation	251.4	–	4.6	4.6	246.8
4. Contingency	366.8	–	333.0	333.0	33.8
Subtotal section 33	**3 814.0**	**1 034.8**	**1 506.7**	**2 541.5**	**1 272.5**
Section 19, Economic and social development in Asia and the Pacific					
5. Project management	1 120.6	836.3	394.4	1 230.7	(110.1)
Total	**4 934.6**	**1 871.1**	**1 901.1**	**3 772.2**	**1 162.4**

81. As shown in table 3, there is expected to be a balance of $1,162,400 remaining unused at the end of 2018, mainly attributable to the following factors:

(a) An unused balance of $1,899,000 under construction costs. Owing to the revised implementation and swing space strategy, the construction of swing space will not begin until 2019, therefore only $240,000 of the $2,139,000 appropriated for swing space construction in 2018 is expected to be used during 2018. This will fund early works related to preparation of the on-site swing space in 2018. The unspent balance of $1,899,000 under swing space costs would still be needed and be used towards the funding needed for the on-site swing space construction in 2019;

(b) Overexpenditure of $907,100 under professional services, attributable mainly to the contract for the lead consulting firm, signed in October 2017, which exceeds the estimated costs as reported in the previous progress report of the Secretary-General;

(c) An unspent balance under escalation in the amount of $246,800. The escalation provision for 2018 will mostly not be spent in 2018 based on the recalculation of project escalation costs which adopted January 2018 (instead of July 2017) as the baseline, because of the change in the construction start date and related construction cost expenditure over the duration of the project;

(d) A projected increase of $110,100 under project management costs related mainly to the onboarding costs of the project staff and the official travel of team members in 2017.

B. Resource requirements in 2019

82. The resource requirements for 2019 are shown in table 4. The total projected expenditure for 2019 amounts to $5,646,900, comprising:

(a) $955,400 under section 19, Economic and social development in Asia and the Pacific, for the project management team. This will provide for the continuation of the existing project team positions (1 P-5, 1 P-4, 2 P-3, 1 National Officer and 1 Local level), 50 per cent of the cost of one Project Coordinator (P-4) at Headquarters, cost-shared with the Africa Hall renovation project at ECA, as well as two new positions proposed to be established effective 1 January 2019. With the change in the construction methodology, which will now require swing space to be constructed onsite during 2019, the services of one on-site Information Technology Assistant (Local level) for swing space would be needed as of January 2019, to support the IT infrastructure design works related to on-site swing space construction. In addition, as previously planned, one Logistics and Coordination Officer (National Officer) would be needed as of January 2019 for the planning, oversight and management of the on-site swing space accommodation;

(b) $4,691,500 under section 33, Construction, alteration, improvement and major maintenance, for swing space construction costs, professional services, escalation and contingency. In accordance with the request of the Advisory Committee on Administrative and Budgetary Questions during its review of the previous progress report on this project (A/72/7/Add.6, para. 22), the escalation and contingency costs have been separated from the base costs throughout the present report.

Table 4
Resource requirements in 2019
(Thousands of United States dollars)

	Projected expenditures in 2019	*Projected unused balance at the end of 2018*	*Net funding requirement in 2019*
	(a)	*(b)*	*(c)=(a)-(b)*
Section 33, Construction, alteration, improvement and major maintenance			
1. Construction costs	3 768.0	1 899.0	1 869.0
2. Professional services	229.3	(907.1)	1 136.4
3. Escalation	267.7	246.8	20.9
4. Contingency	426.5	33.8	392.7
Subtotal section 33	**4 691.5**	**1 272.5**	**3 419.0**
Section 19, Economic and social development in Asia and the Pacific			
5. Project management	955.4	(110.1)	1 065.5
Total	**5 646.9**	**1 162.4**	**4 484.5**

83. Taking into account the projected unused balance of $1,162,400 at the end of 2018, the net funding requirements in 2019 would amount to $4,484,500, comprising: (a) $1,065,500 under section 19, Economic and social development in Asia and the Pacific; and (b) $3,419,000 under section 33, Construction, alteration, improvement and major maintenance, of the programme budget for the biennium 2018–2019.

V. Next steps

84. Among the actions to be undertaken during the next reporting period are:

(a) Continue recruitment of the remaining members of the dedicated project management team;

(b) Finalize the designs by the lead consulting firm for both swing space and main construction, including producing tender documents for the main works so that works can commence in early 2020;

(c) Finalize construction of the temporary swing space and move occupants in preparation for the first phase of the construction;

(d) Complete the design, construction and occupancy of the flexible workplace strategies pilot floor;

(e) Continue the change management process with ESCAP staff and with tenants;

(f) Continue to manage the project risks, using both independent and integrated risk strategies, and update the Monte Carlo model based on updated project progress, with the aim of increasing the likelihood of completing the project within budget;

(g) Continue future office space planning and conduct outreach to attract additional tenants to the ESCAP premises.

VI. Recommended actions to be taken by the General Assembly

85. The General Assembly is requested to:

(a) **Take note of the progress made since the issuance of the previous report of the Secretary-General;**

(b) **Take note of the revised cost plan for the project;**

(c) **Approve the establishment of two temporary positions (one National Officer and one Local level), effective 1 January 2019, in the project support team, under Section 19, Economic and social development in Asia and the Pacific, of the programme budget for the biennium 2018–2019;**

(d) **Appropriate a net amount of $4,484,500 for project activities in 2019, comprising $1,065,500 under section 19, Economic and social development in Asia and the Pacific, and $3,419,000 under section 33, Construction, alteration, improvement and major maintenance, of the programme budget for the biennium 2018–2019, which would represent a charge against the contingency fund.**

Annex

Revised cost plan

(Thousands of United States dollars)

	2017	2018	2019	2020	2021	2022	2023	Total
Section 33, Construction, alteration, improvement and major maintenance								
1. Construction costs								
1.1 Building costs	–	–	–	4 885.7	7 141.5	5 297.3	3 033.5	20 358.0
1.2 Swing space costs[a]	–	240.0	3 578.0	100.0	100.0	125.0	125.0	4 268.0
1.3 Physical security system[b]	–	-	190.0	–	–	–	–	190.0
Subtotal, construction costs	**–**	**240.0**	**3 768.0**	**4 985.7**	**7 241.5**	**5 422.3**	**3 158.5**	**24 816.0**
2. Professional services								
2.1 Lead consultancy firm[c]	201.8	1 365.9	39.3	228.9	228.9	228.9	228.9	2 522.8
2.2 Seismic design	134.4	–	–	–	–	–	–	134.4
2.3 Risk management	–	51.0	51.0	39.0	74.6	17.6	–	233.2
2.4 Other services	125.8	84.9	139.0	–	–	–	–	349.7
Subtotal, professional services	**462.0**	**1 501.8**	**229.3**	**267.9**	**303.5**	**246.5**	**228.9**	**3 240.2**
3. Escalation[d]	–	4.6	267.7	567.8	1 147.4	1 110.4	791.3	3 889.1
4. Contingency	–	333.0	426.5	582.1	869.2	677.9	305.7	3 194.5
Subtotal section 33	**462.0**	**2 079.4**	**4 691.5**	**6 403.6**	**9 561.7**	**7 457.2**	**4 484.4**	**35 139.7**
Section 19, Economic and social development in Asia and the Pacific								
5. Project management								
5.1 Dedicated project management and support team	474.8	623.5	851.0	843.0	800.0	613.0	232.0	4 437.2
5.2 Dedicated coordinator at Headquarters (cost shared with Economic Commission for Africa)	14.2	90.8	90.8	90.8	90.8	26.4	–	403.8
5.3 Travel of project management team	24.7	–	13.6	–	–	–	–	38.3
Subtotal section 19	**513.7**	**714.3**	**955.4**	**933.8**	**890.8**	**639.4**	**232.0**	**4 879.3**
Total	**975.7**	**2 793.6**	**5 646.9**	**7 337.4**	**10 452.5**	**8 096.6**	**4 716.4**	**40 019.0**

[a] As a result of the revised swing space strategy, offsite swing space costs have been moved to onsite swing space costs.

[b] Funds initially budgeted for off-site swing space have been moved to the physical security system required for the onsite swing space.

[c] Lead consulting firm contract was signed in October 2017 with a contract value of approximately $2.5 million.

[d] Escalation calculated at 4 per cent per annum, compounded. Escalation was recalculated using January 2018 as the baseline, to reflect the revised distribution of construction costs resulting from the revised construction start date.